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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/735,190

12/12/2003

Sung-Koog Oh

5000-1-406

2584

7590

06/14/2005

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EXAMINER

ROJAS, OMAR R

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,190

Applicant(s)

OH ET AL.

Examiner

Omar Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 12, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0205.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The prior art documents submitted by applicant in the Information Disclosure Statement(s) filed on February 18, 2005 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

Specification

3. The disclosure is objected to because of the following informalities: In the Abstract, line 10 and page 3, lines 14-15 of the specification, the term “zero dispersion wavelength” should read “zero dispersion slope” so as to be in accordance with the description of the invention.

Appropriate correction is required.

Claim Objections

4. Claim 1 is objected to because of the following informalities: In claim 1, line 10, the term “zero dispersion wavelength” should read “zero dispersion slope” so as to be in accordance with the description of the invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 2002-258092 to Furukawa (hereinafter "Furukawa"), provided by applicant(s) in the information disclosure statement.

A machine translation of the Furukawa reference (hereinafter "the translation") has been provided and is referred to below.

Regarding claim 1, Furukawa teaches an optical fiber having a refractive profile (e.g., see Figure 1) comprising:

- a core area 6 extended along a predetermined reference axis;
- a cladding area 5 formed around the external circumference of the core area, wherein the radii of the core area and cladding area and the refractive profile are selectively selected so that the optical fiber has the following characteristics:
 - a zero dispersion wavelength in the range of 1300 to 1350 nm (see Furukawa, Table 1 on page 5);
 - a dispersion value in the range of 13 to 18 ps/nm*km at 1550 nm wavelength (see Furukawa, Table 1 on page 5);
 - a zero dispersion slope greater than 0.7 ps/nm²*km (see the translation at paragraph [0011]; see also the Derwent English abstract of the Furukawa reference, submitted by applicant(s)); and,
 - an effective cross-section area of 70 microns or more (see Furukawa, Table 1 on page 5).

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Regarding claims 2 and 3, Figures 5 and 9 of Furukawa clearly suggest the recited limitations.

Regarding claim 4, as seen in his Figures 2 and 6, the refractive index of the cladding 5 decreases slightly as the radius or diameter increases. Therefore, Furukawa also teaches a depressed clad type optical fiber.

Allowable Subject Matter

7. Claims 5 and 6 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, Furukawa is considered the closest available prior art. In the examiner's opinion, it would not have been obvious to use an index-matched clad type optical fiber in Furukawa. This particular feature is shown in Figure 2 of the application drawings and is considered patentably distinguishable over Furukawa. Therefore, the subject matter of claim 5 is deemed allowable.

Regarding claim 6, Furukawa is considered the closest available prior art. In the examiner's opinion, it would not have been obvious to use the radial dimensions recited by claim 6 in Furukawa. The examples given by Furukawa in tables 1-3 show a core having a diameter of at least 18 microns which is equivalent to core radius of 9 microns. This dimension is much larger

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than the core radius recited by claim 6. Therefore, the subject matter of claim 6 is deemed allowable.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. With regards to the prior art cited in the search report for European application no. EP 04 001315 (also provided by applicant(s)), the examiner has studied the references cited in the search report and has determined that only the aforementioned Furukawa reference teaches all the limitations recited by claim 1. Patent Publication Nos. 2004/0218882 and 2002/0051612 disclose optical fibers having most, but not all, of the characteristics recited by claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

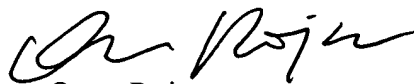
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (703) 872-9306. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Omar Rojas". The signature is fluid and cursive, with the first name "Omar" and last name "Rojas" clearly distinguishable.

Omar Rojas
Patent Examiner
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or

June 9, 2005